

## MEDICAL SYSTEMS

### Description

Specialised in air rescue and medical systems, the portfolio includes the development and certification of Emergency Medical Systems and Medical Mounts as well as their integration and certification in aircraft according to EASA Part 21J Design – and EASA Part 21G Production Organization. The products can be delivered with EASA Form 1 or the Certificate of Conformity.

### Specialized in:

- (H)EMS Equipment
- Medical Mounts



SCAN ME





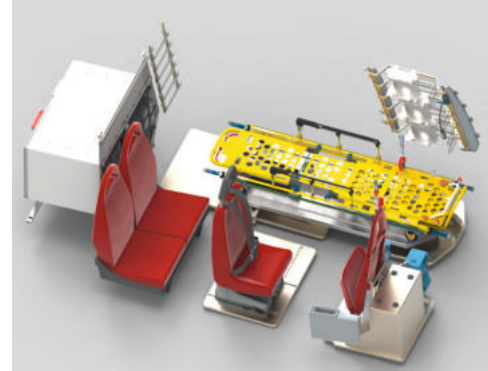
## Our portfolio

### (H)EMS Equipment

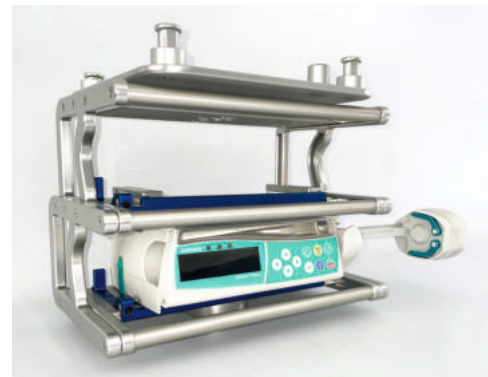
- Medical EMS Systems
- Stretcher Installations and Conversions
- Patient Transport Units (PTU)
- Medical Floors
- Roll-In Systems
- Seats

### Medical Mounts

- Braun Space
- Hamilton T1
- Accuvac Pro
- Oxylog 3000+/300VE
- Eve Ventilator
- Zoll-X
- Lifepack 15 Physio



*ITH H155 NEW GENERATION  
for Johanniter Luftrettung*



*Medical Mount for Braun Perfusor® Space*

## Our products – your benefit

You require the installation of new mission equipment or need medical systems for your new mission profile – we have the right solution for your demands.

By cooperating with renowned partners from the aviation industry and companies in air rescue, we design and manufacture tailor-made products for your applications. Whether fiber composite, metal or avionics, we implement your requirements from the idea to the finished product for you in our EASA Part 21J Design Organization and Part 21G Production Organization.

### We are specialized in the following areas:

- Mission Equipment
- Medical Systems
- Engineering
- Manufacturing



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## HAMILTON T1 MOUNTING RACK



### Description

The Hamilton Mounting Rack is fixed to the Hamilton T1 device for mounting the intensive care unit ventilator in the helicopter and during ground use on the patient transport stretcher.



### Benefits

- Smart and compact design
- Low height enables practicable use
- Space-saving attachment due to the compact design and thus more freedom of movement
- Universal attachment to helicopter mounting rails and patient transport stretcher
- Convenient and quick installation as well as removal
- Surface treated
- Smooth surfaces enables easy cleaning
- Compatibility with existing mounting systems

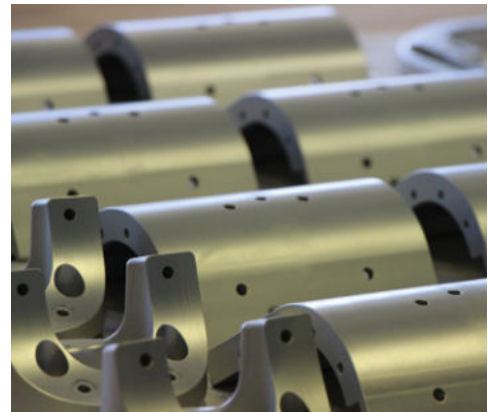


## Details

- Dimensions (W x L x H) in mm: 311 x 254 x 275
- Material: Aluminium 2024 T3
- Surface treatment: (anodized)
- Approval: Minor Change and/or Form 1
- Low weight: 7,5 Kg with Hamilton T1
- Compatibility: With pre-installed mounting rails and adapters

**The Minor Change is available for Airbus BK 117 D2 and other types.**

For further information about the Hamilton T1 Mounting Rack, please contact us.



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# EMS KIT

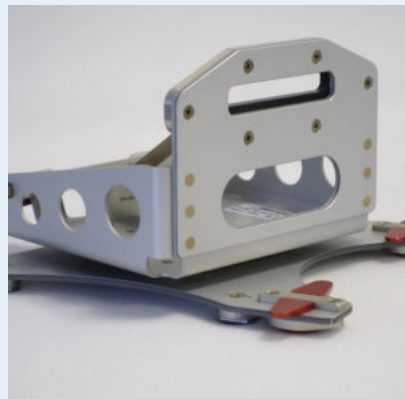
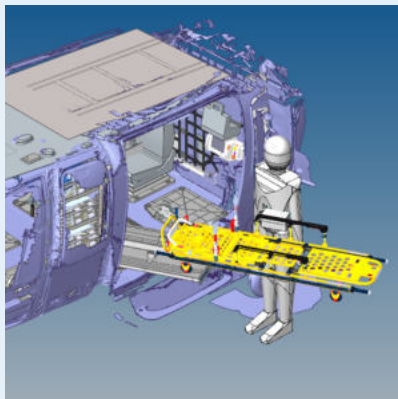
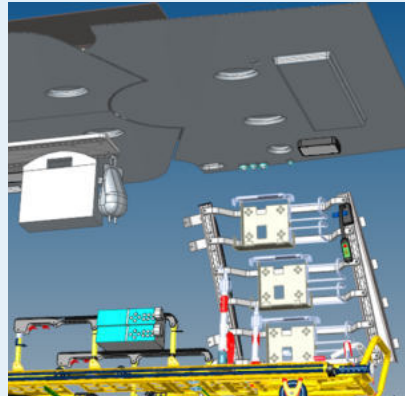
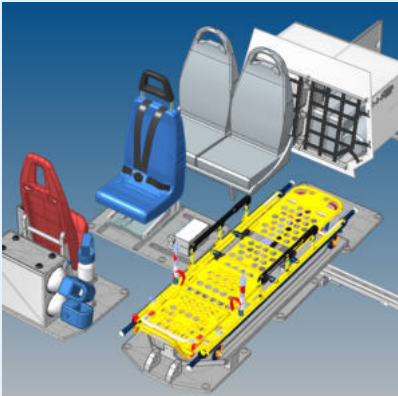
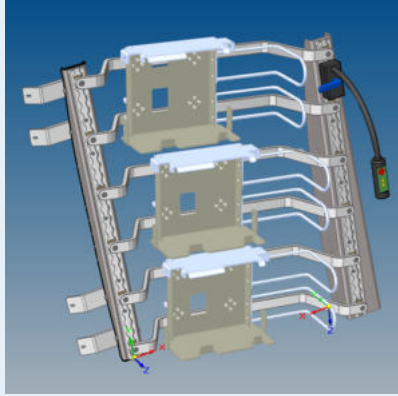
## REACH OUT:

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 [www.spaes.com](http://www.spaes.com)

# EMS Equipment tailored to your needs.



The background of the entire page is a blue-tinted photograph of an ambulance's interior. It shows various pieces of medical equipment, including monitors, control panels, and a stretcher. The lighting is soft, and the overall atmosphere is professional and clinical.

# **FOR YOUR EMS MISSIONS**

**WHEN LIVES ARE AT STAKE, FUNCTIONAL  
EQUIPMENT IS THE KEY FOR A SUCCESSFUL MISSION**

Our main goal is to provide the greatest quality equipment for the best possible performance to our customers.

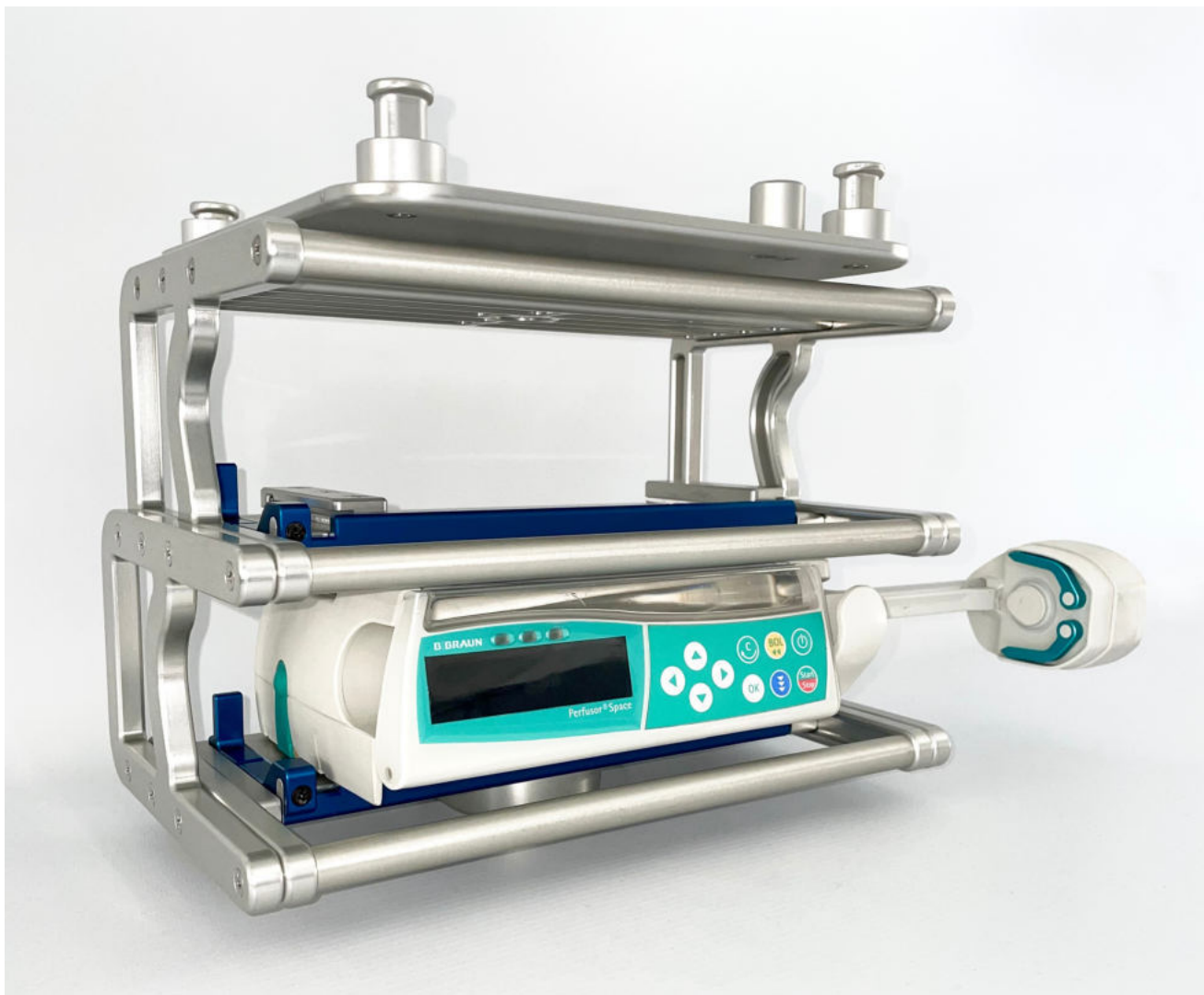
Whether you need stretchers, medical mounts, seats or med walls – we offer customized and easy-to-use equipment for special requirements and ensure the safety of the air ambulance crew and its patients.

We offer customers the full range of services from design to production up to the certification of the equipment. Due to our network of doctors and paramedics, we consistently improve our products. For many years, numerous air rescue operators have used our equipment with excellent success.

BRAUN® PERFUSOR SPACE

# MEDICAL MOUNTS

The mount allows for convenient and quick installation as well as removal. It can be universally attached to mounting rails and patient transport stretchers.



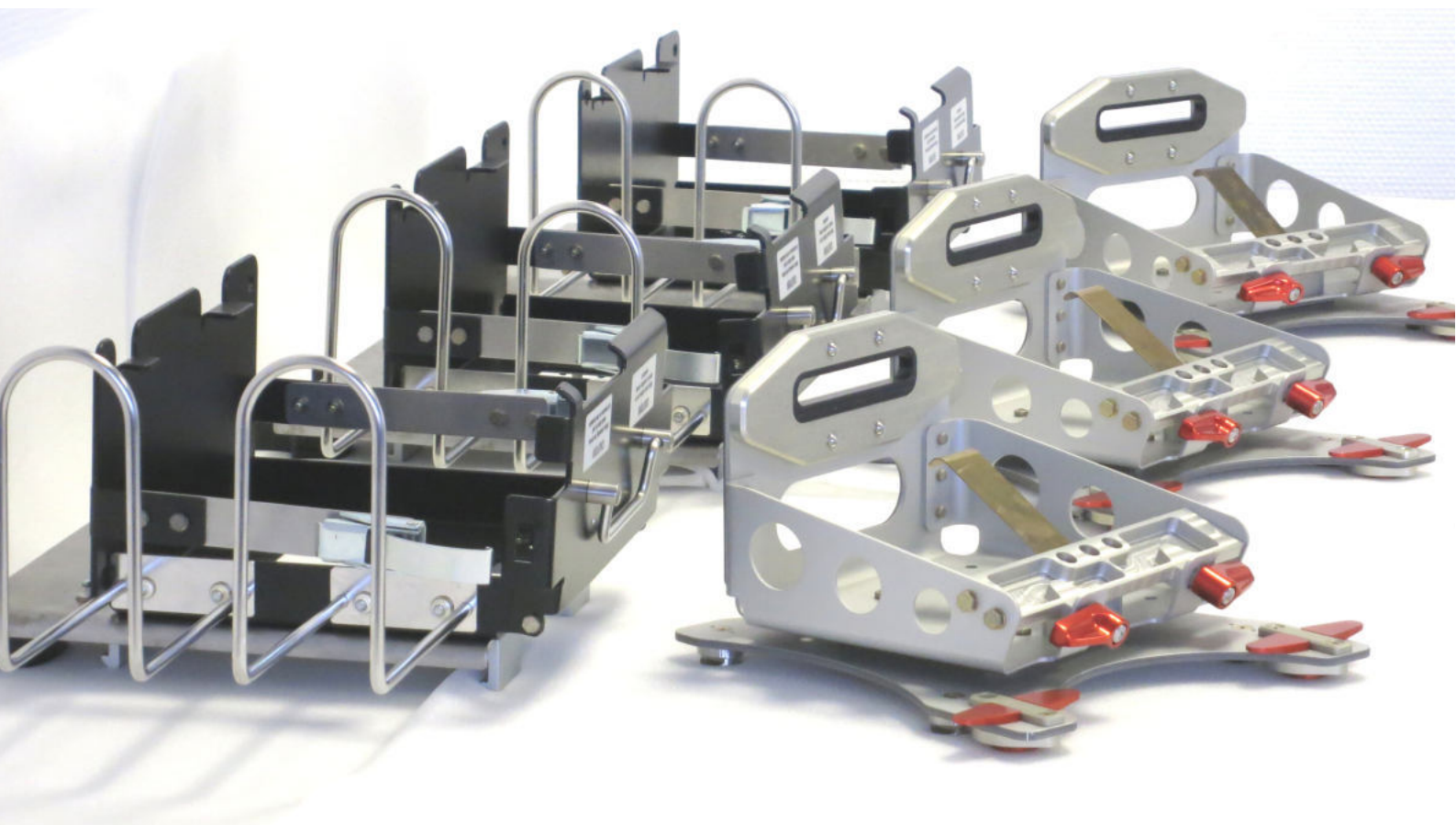




DRÄGER OXYLOG  
HAMILTON T1

# MEDICAL MOUNTS

The medical racks for the ventilator are mounted on the rail system at the ceiling of the helicopter and [can be rotated 360 degrees](#). This allows control and operation from all positions in the passenger compartment. The necessary Minor Change can be carried out in the [EASA Part 21J Design Organization](#).



# BRAUN® PERFUSOR SPACE HAMILTON T1

## MEDICAL MOUNTS

The medical racks for the ventilator are mounted on the rail system at the ceiling of the helicopter and [can be rotated 360 degrees](#). This allows control and operation from all positions in the passenger compartment. The necessary Minor Change can be carried out in the [EASA Part 21J Design Organization](#).

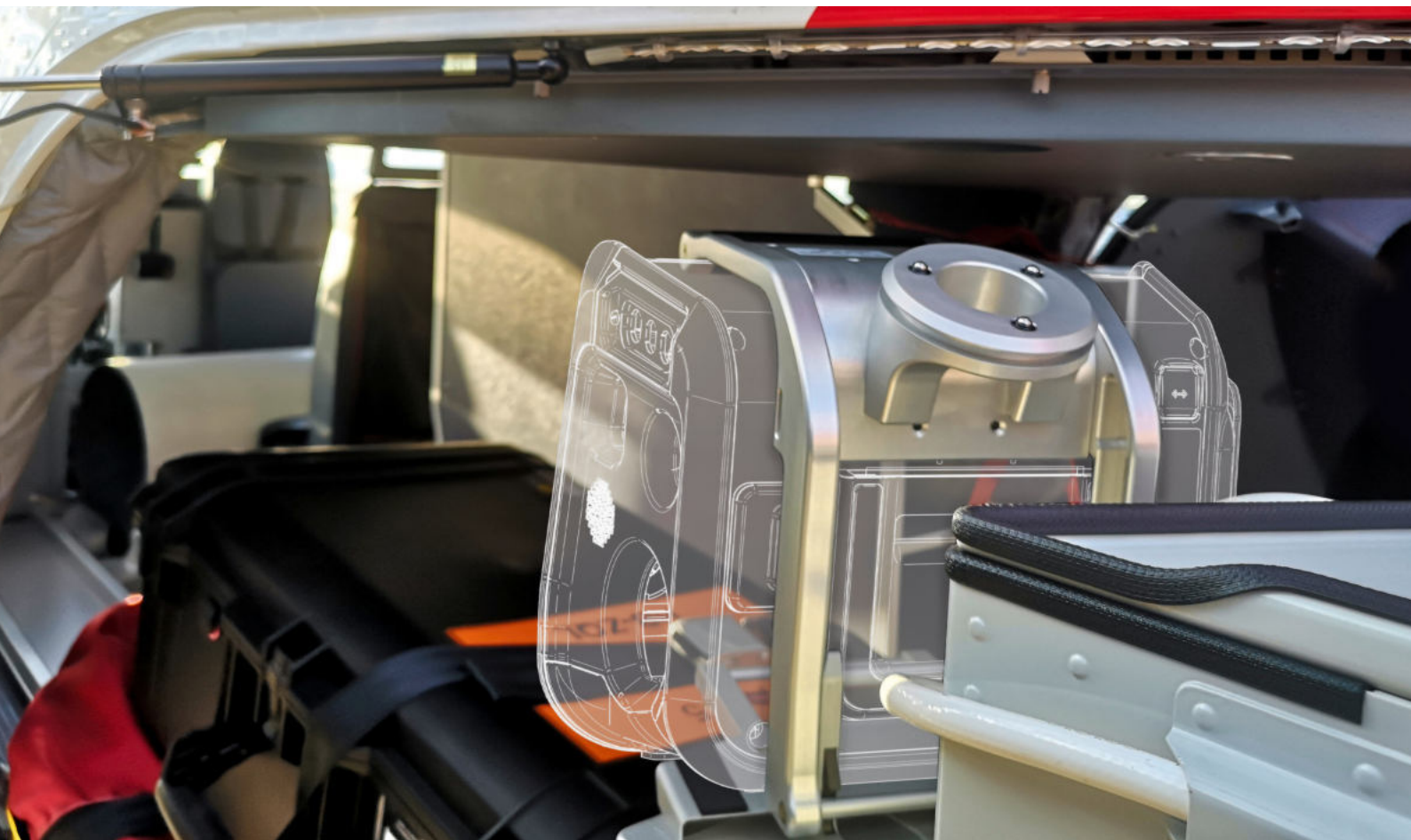




HAMILTON T1

# MEDICAL MOUNTS

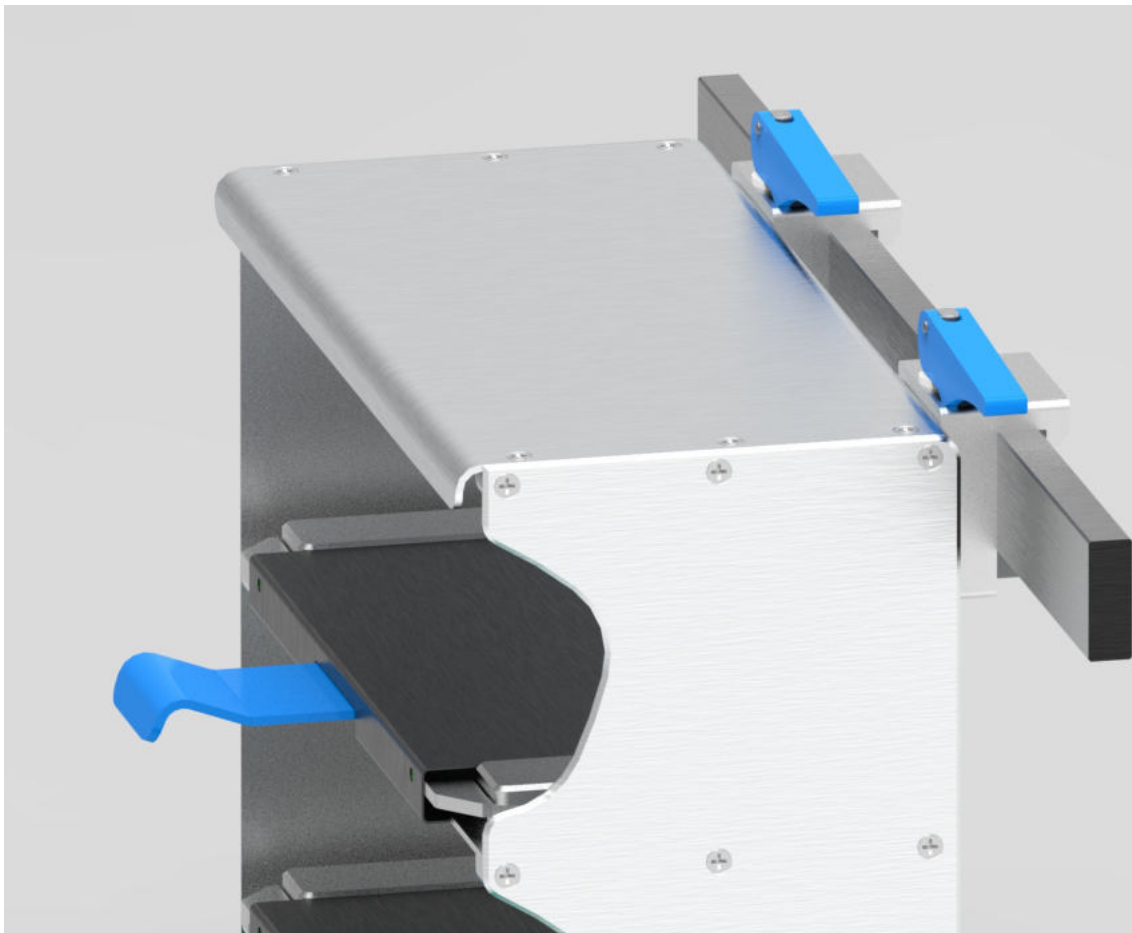
The Hamilton Mounting Rack is fixed to the Hamilton T1 device for mounting the intensive care unit ventilator in the helicopter and during ground use on the patient transport stretcher.



# TOP CLAW



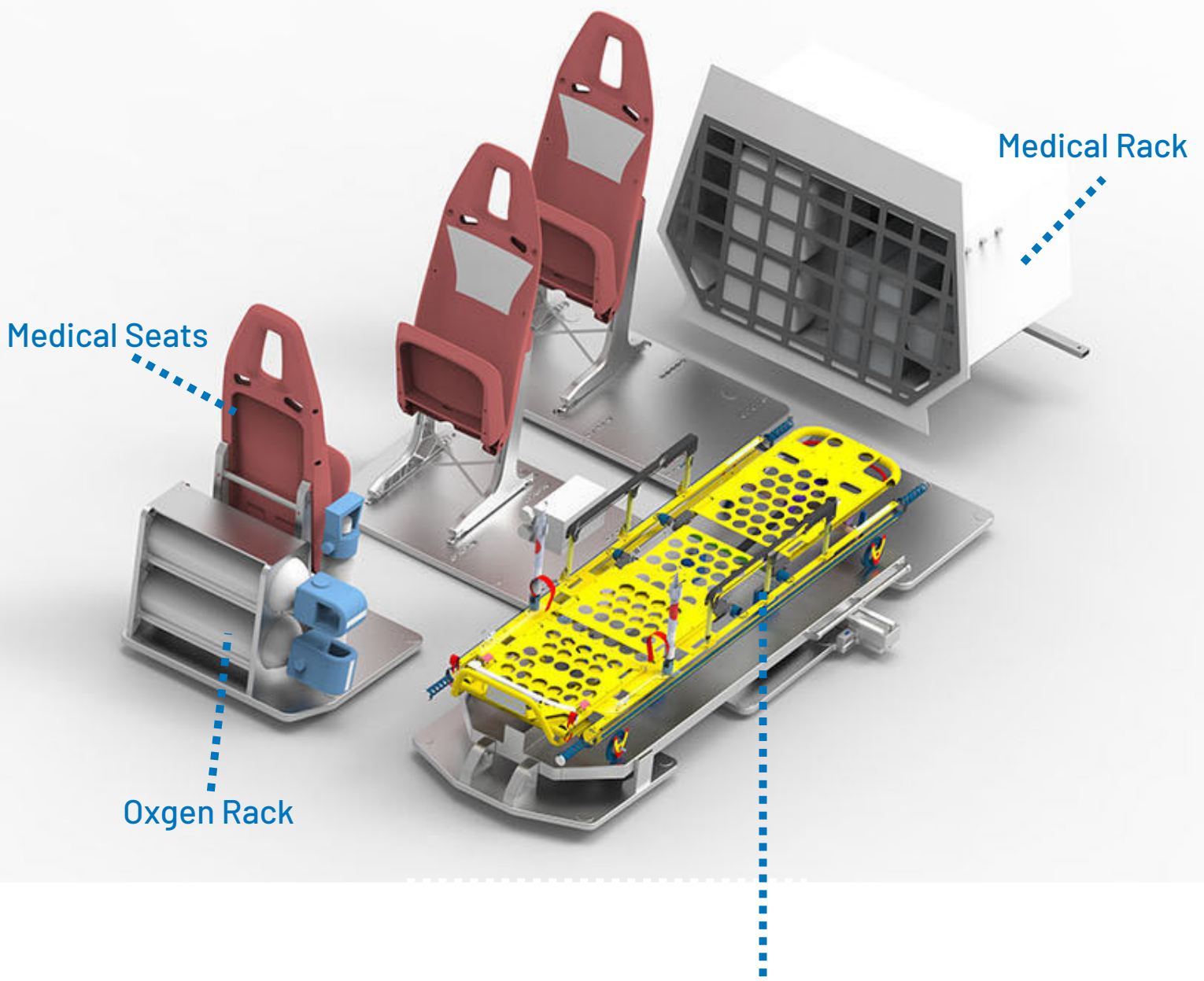
The ability to push the claw from above makes mounting various medical equipment **easier** and **quicker**.  
Since it is constructed of metal, it allows for **easy cleaning**.



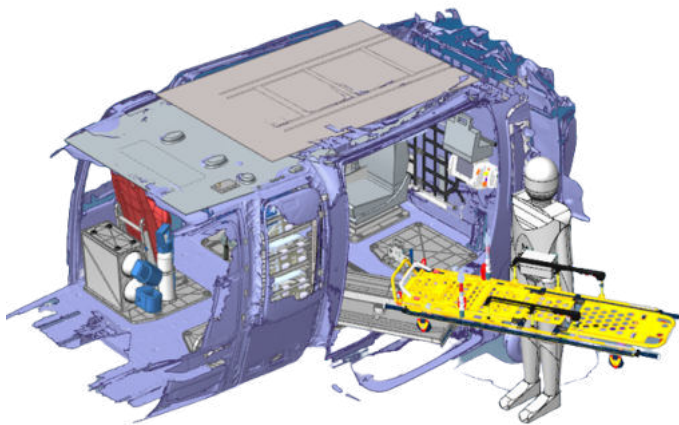
# MOUNTS INSTALLED IN AIRCRAFT

DRÄGER OXYLOG - BRAUN INFUSOMAT - CONTROL LIFEPACK 15





# STRETCHER



- Simple handling
- Modular use in many configurations
- Safe adjustment

# Medical Rack

storage compartment  
with generous capacity  
for the crew's rations



## Medical Wall

- Custom design for optimal arrangement
- Attachment of the Oxygen bottles on the rear side
- Quick mounting with four fixing points on the floor
- Maximum load of 95 kg possible
- The STC is available for the types of Airbus SA365/AS365/ EC155 B and B1





## MEDICAL STORAGE CABINET



### Description

The Medical Storage Cabinet is useful to safely store equipment in the passenger cabin. It is robust and lightweight thanks to its honeycomb fiberglass construction. The Quick Release Fittings allow for easy mounting and de-mounting in the aircraft.

Due to the flexible design, it is possible to accommodate drawers, nets, doors and fixed items in the cabinet, depending on what is required. Different colours and finishes such as anti slip surface or Tedlar are also possible. The cabinet is approved for small and large aircraft and helicopters and can be supplied with Form 1 and the Certificate of Conformity.

The Medical Storage Cabinet can be customized. Different colors or more shelves are available based on request.



### Details

- Width: 503,5 mm
- Height: 1240,7 mm
- Depth: 576,5 mm
- Empty weight: 12 kg
- incl. load (46 kg): 85 kg
- Approved according to FAR 25 Amdt. 18
- Drawers open and close with latches
- Connection to seat rails
- Coating with Tedlar (fire retardant)
- Smooth surfaces allow for easy cleaning

**The Minor Change is available for LearJet 35 and other models.**

For further information about the Medical Storage Cabinet, please contact us.



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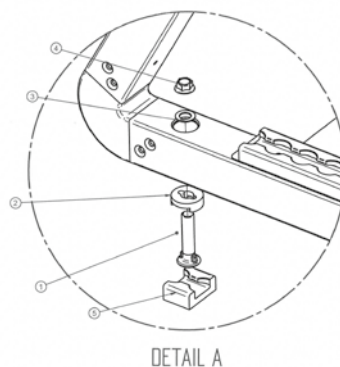
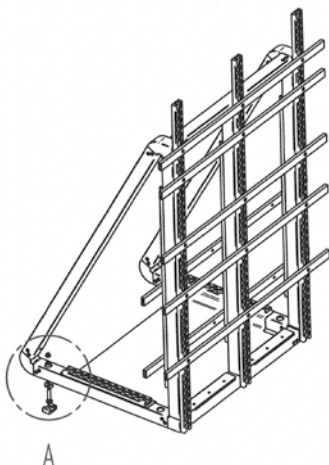
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## MEDICAL EQUIPMENT RETAINER



### Description

The variable Equipment Retainer is for mounting of medical devices and medical equipment. Installation can be carried out on various seat positions in the passenger compartment, to ensure optimal arrangement of medical equipment for any application. The special development of the design is based on the operational requirements for doctors and paramedics from air rescue.



### Benefits

- Bracket can be mounted on any seat position
- Six different installation variants possible
- Variable arrangement of medical devices
- Height-adjustable Mounting rails
- Fixing rails are individually adapted for the customer
- Use of standard medical rails
- Variable displacement of the medical devices horizontally and vertically
- Space-saving arrangement



## Details

- Individual arrangement of the medical equipment by height-adjustable mounting rails
- Special surface treatment for medical cleaning
- Custom design for optimal arrangement
- Attachment of the Oxygen bottles on the rear side
- Quick mounting with four fixing points on the floor
- Maximum load of 95 kg possible
  - 1 rail at the top with a load capacity of up to 5 kg
  - 5 rails at the front, each with a load capacity of 10 kg
  - 2 rails at the rear with a load capacity of 20 kg each



**The STC is available for the types of Airbus SA365/AS365/EC155 B and B1.**

For further information about the Medical Equipment Retainer, please contact us.



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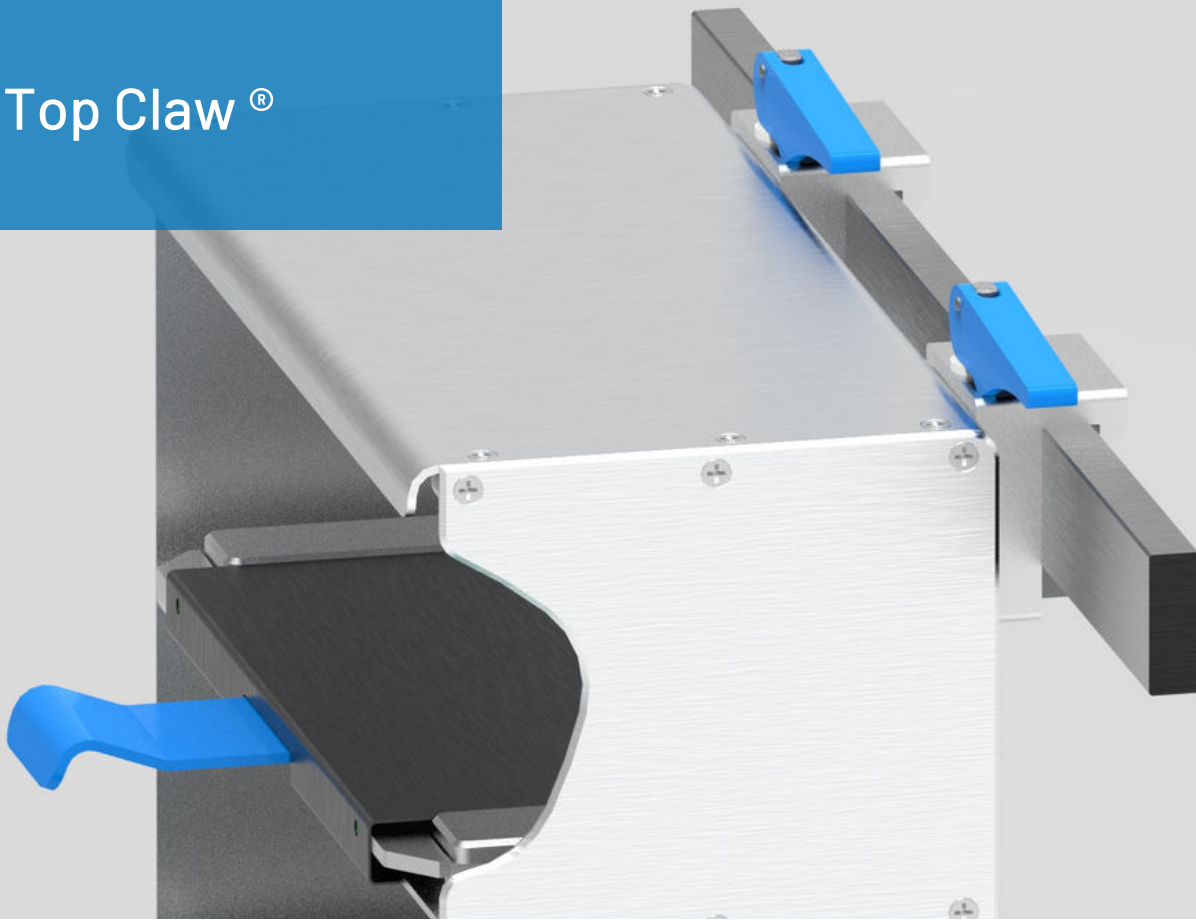
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## Top Claw<sup>®</sup>



### Description

The Top Claw<sup>®</sup> facilitates the mounting of various medical equipment. Its design allows for the convenient and efficient attachment of devices by enabling a pushing action from above. The Top Claw<sup>®</sup> comes in left and right versions. This allows for greater flexibility in mounting various devices and accommodating different orientations. The 22mm mounting hole distance allows for interchangeability between different devices and mounting brackets that adhere to this standard.

With its reliable construction, the top claw provides a secure and stable hold for the mounted devices. This is crucial for maintaining the stability and safety of the medical equipment, minimizing the risk of accidental dislodgment or falls.





## Technical Details

### Mass

- 100g

### Mounting Hole Distance

- 22mm

### Dimensions

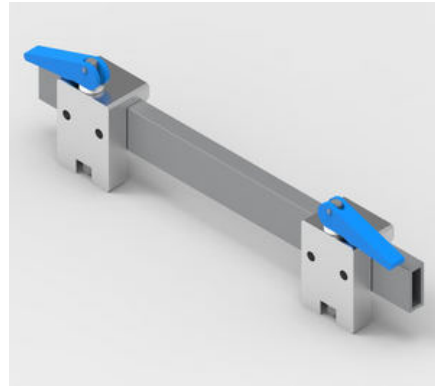
- 67,5 x 35 x 27,5 [mm]
- 2,65 x 1,38 x 1,08 [inch]

### Materials

- Aluminium
- Stainless Steel
- PTFE / PU

### Compliance

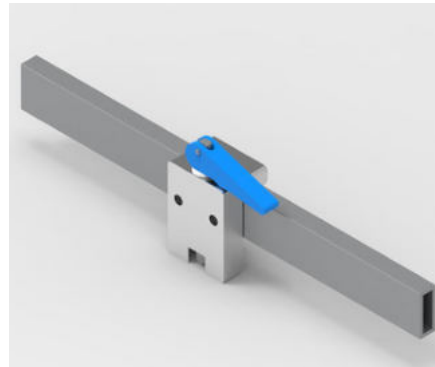
- Part21 (EU 748/2012)
- EASA FAR-/CS 29
- MDR (EU 745/2017)
- EN 1789
- EN 19054
- RoHS/REACH



**Payload:**  
25kg

**Load factor n:**  
Horizontal: 16  
Down: 20  
Up: 10

**Lever arm:**  
100mm



**Payload:**  
12,5kg

**Load factor n:**  
Horizontal: 16  
Down: 20  
Up: 10

**Lever arm:**  
100mm

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## VENTILATING AIR DISINFECTION UNIT UV-CAD

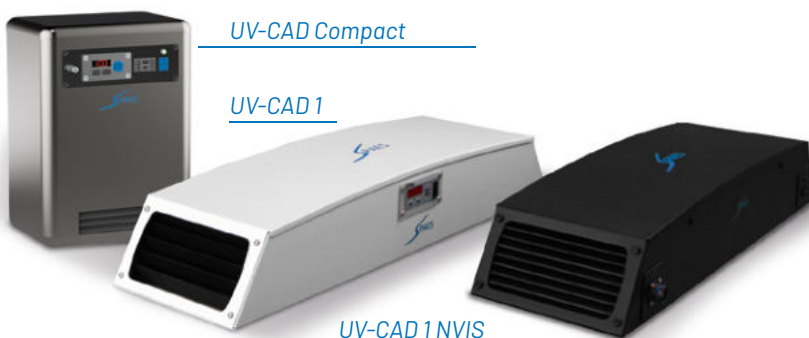


### Description

The UV-CAD (ultraviolet circulation air disinfection) is a cleaning system that sterilizes the air with the proven UVC cleaning method. This has been successfully used for many years in different areas like the medicine and the food industry. By using the UV-CAD, the room air is purified several times per hour destroying the viruses and bacteria i.e. **SARS-CoV-2**. The UV-CAD was developed especially for aircraft and has been tested according to aviation standards. The dangerous aerosols in the air are greatly reduced with the UVC technology, which significantly reduces the transmission of pathogens via the air in the aircraft.

### Benefits

- Quick and easy disinfection of the air through proven UVC process
- Variable air volume settings
- Proven process from the medical and food industry
- No health risks from the UVC cleaning process for passengers
- Light weight and small dimensions
- Variable power supply according to customer requirements
- Easy cleaning of surfaces through powder coating
- Individual, quick and easy installation on wall, floor or ceiling
- Aviation certification as Minor Change
- NVIS certification available
- Effective use **against COVID-19**



UV-CAD Compact

UV-CAD 1

UV-CAD 1 NVIS



## Variants and Options

Properties	UV-CAD 1	UV-CAD Compact
Dimensions:	685 x 150 x 115 mm	262 x 357 x 192 mm
Weight:	5 kg	5 – 6 kg
Power Consumption:	50 Watt	60 Watt
Air Volume:	0 – 90 m <sup>3</sup> /h (adjustable)	0 – 100 m <sup>3</sup> /h (adjustable)
Supply Voltage:	14 VDC, 28 VDC   114 VAC, 230 VAC	
Operating Temperature:	- 20°C to + 60° C	
Optional:	HEPA Filter (H13/14)	
Testing:	DO-160/ED-14 (Vibration, Temperature, Altitude)	
Aviation Approval:	Minor Change (NVIS Approval)	

Further variants and options are available on customer request.

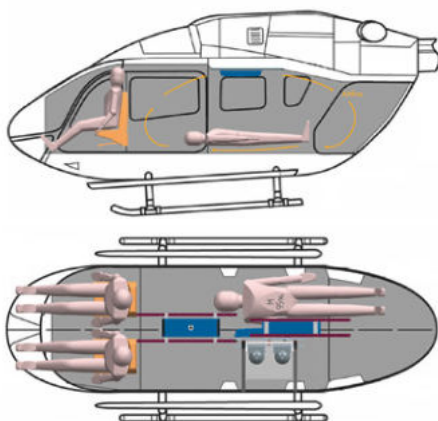
## The Effect of UVC

In contrast to visible light, UV radiation is more short-waved and more energetic. UV radiation is divided into UVA, UVB and UVC. UVC has a wavelength of 100 – 300 nm. With a wavelength of 250 – 280 nm, the genetic information contained in the virus can be destroyed. This means that the information for reproduction is lost, the virus is no longer virulent (contagious) and the infection cycle is broken. Depending on the virus, a certain radiation power is required, which means the energy emitted by the radiator per time unit. For influenza viruses, a power of 2,1 mJ/cm<sup>2</sup> is required. With **CORONA VIRUSES**, there are no exact values yet. Most experts assume a power of 4 mJ/cm<sup>2</sup> according to the current state of knowledge.

Virus Type*	(mJ/cm <sup>2</sup> )
PRRS Virus	1,8
Influenza A Virus	2,1
<b>SARS-CoV-2</b>	<b>4</b>
Herpes Virus	4,3
Hepatitis A Virus	6,7
Rota Virus SA11	7,5

\*Exemplary values from the literature without guarantee and claim to completeness.

## Examples of Placement in a Helicopter



In cooperation with  
AC Avionic Concept



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